Classé

OWNER'S MANUAL
SSP-60
Pre-amplifier/Surround
Sound Processor

IMPORTANT: SAFETY INFORMATION

CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS OWNER'S MANUAL AND ALL THOSE MARKED ON THE UNIT. RETAIN THIS OWNER'S MANUAL FOR FUTURE REFERENCE.

1) Do not attempt to service the SSP-60 yourself. Do not open the SSP-60 for any reason, there are no user serviceable parts inside. An open unit, particularly if it is still connected to an AC source, presents a potentially lethal shock hazard. Refer all questions to authorized service personnel only.
2) To prevent fire or shock hazard, do not expose the SSP-60 to water or moisture. If a liquid does enter your SSP-60 take it to your Classé dealer for a thorough check-up.
3) Do not place the SSP-60 close to any heat-producing device such as your audio amplifier, radiator, stove, etc., and keep it away from direct sunlight.
4) Connect the SSP-60 only to an AC source of the proper voltage. The shipping container and the rear panel serial number tag will stipulate the proper voltage. Use of any other voltage will almost certainly damage the unit and will void the warranty.
5) AC cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Do not stress the AC cord by stretching to a plug. If damage does occur to the AC cord, take it to your Classé dealer for a thorough check-up and proper repair.
6) If the SSP-60 will be out of use for an extended period of time (vacation, etc.), you may wish to unplug the power cord from the AC source to prevent any chance of problems from a voltage surge or lightning strike.

CE Notice

All of us at Classé take extreme care to insure that your purchase will remain a prized investment. We are proud to inform you that all Classé Audio components have been officially approved for the European Community (CE) mark under CE Certificate Number C401CLA1.MGS granted on 18 July, 1996.

This means that your Classé product was subjected to the most rigorous manufacturing and safety tests in the world. The CE mark certifies that your purchase meets or exceeds all European Community requirements for unit-to-unit consistency and consumer safety.

Thank You From Everyone At Classé

Thank you for purchasing the Classé Audio SSP-60 Preamplifier/Surround Sound Processor.

We take great pride in offering components that combine exceptional sonic performance and long-term reliability. To do that, we have invested in extraordinary design and manufacturing facilities. We trust that you will enjoy your purchase for many years to come.

Classé Design Philosophy

All of our components benefit from the same rigorous design goal: All Classé products must reproduce music with the harmonic and spatial integrity typical of fine instruments as heard in a live performance or in the recording studio.

Single Circuit Design

To this end, we make extensive use of carefully optimized versions of the same basic circuit precisely matched to specific power requirements. This means that all Classé line level components and power amplifiers benefit from years of refinement. However, our efforts do not stop here.

Listening: The Critical Design Element

Once we determine general circuit values for a particular application, we listen carefully while exchanging and mixing different parts (transistors, capacitors, wiring, PC boards, etc.) and adjusting specific operating voltages within proper engineering ranges.

Extended Real-World Lifespan

Every Classé component, even the most affordable, benefits from our painstaking approach to design parameters. The result is an optimum balance between the often-conflicting demands of exceptional performance and long-term reliability. Our most expensive components gain from even tighter tolerance parts and highly segmented and exceptionally robust power supplies with large reserve-current capabilities.

Our Pride in Manufacturing, Your Pride in Ownership

We build all of our components to the highest possible standards. From multi-layer glass-epoxy circuit boards, the full sized power-supplies, and the massive faceplates, every Classé product is a tribute to both the science and art of sound reproduction. We hope that you derive as much pleasure and satisfaction from using your Classé unit as we did in producing it.

The Classé SSP-60 Preamplifier/Surround Sound Processor is a beautiful sounding high-end two-channel Preamplifier which also performs the complex task of decoding and processing multi channel Surround Sound , while remaining simple and intuitive enough for anyone to use. The SSP-60 is the high quality center of any audio and home theater installation. It will sound and work best in your system when used with other high end products, such as those from Classé. Classé has a powerful selection of single, dual and multi channel power amplifiers, and also builds wonderful CD, DVD and SACD players.

This owner's manual will make it possible for you to set up the SSP-60 and begin using it only a short period of time after you take it out of the box. Section 1 quickly details getting it out of the box and suggests a few precautions. Section 2 explains how to plug in all the wires from all the associated equipment. Sections 3, 4, 5, and 6 include instructions on setting up and using the SSP-60's stereo and surround sound capabilities correctly.

The most difficult part of the set-up will be attaching all the wires. Classé recommends labeling each and every input or output wire in your system, including the AC cables. When you've done this you will know what equipment is connected at each end. Labeling is a simple task which takes a few extra minutes, but which can save hours of effort if you ever want to change anything, even a single cable or wire.

It is also a good idea to make a chart of all the associated equipment and how you want to attach everything together. Even a simple penciled flow chart will make your tasks go faster with fewer hookup errors. You can keep the chart for later reference when you want to add to or subtract equipment from the system.

Contents

Section 1.0 - Getting Started

1.1 Unpacking the SSP-60

Your Classé **SSP-60** is packed in high-density foam inside a special cardboard container. Take the unit out of the heavy plastic bag and place the **SSP-60** on a sturdy surface. Carefully inspect it and report any concealed damage to your dealer immediately.

In addition, look for the following accessories:
1) The Owner's Manual (This one)
2) One detachable AC power cord.
3) One remote control handset (with two AAA batteries).
4) One calibration microphone with battery and cable.

*We **strongly** recommend that you save the shipping carton and foam inserts. The REQUIRED Replacements are expensive to purchase. The packaging was designed to protect the **SSP-60** under almost all circumstances and will be very useful in protecting the valuable electronic instrument if you move or need to ship the unit for any reason.*

1.2 Optimal Placement and installation notes

Please pay careful attention to the safety information at the beginning of this manual (Page 2).

Take care when choosing the location for the SSP-60. Stable, high-strength shelving or equipment racks specifically designed for audio/video components are best.

Place the SSP-60 close enough to other components to allow convenient connection. This is especially true for source components where shorter cable runs are best. However, we do not recommend stacking the SSP-60 with other components, especially tuners, as they may be affected by radio-frequency emissions from the SSP-60's microprocessor.

Allow *at least* four inches of free space behind the SSP-60 to accommodate interconnect cables, power cords, etc. Four inches of unobstructed free space above the SSP-60's chassis cover will allow sufficient air circulation to dissipate the small amount of heat.

Isolate power amplifiers as much as possible from the SSP-60 to avoid stray magnetic fields, often generated by their large power supply transformers, as well as the heat normally produced by these units. The SSP-60's high current output stage is virtually immune to problems sometimes encountered when the power amplifiers are far away at the end of long cable runs.

Do not place the SSP-60 on a rug or other soft surface into which it could sink. Do not place another unit on top of the SSP-60. Do not place the SSP-60 on top of a unit that generates heat.

1.3 Ventilation

CAUTION: Ventilation is very important. We do not recommend attempting to operate the SSP-60 if the ambient temperature exceeds 40°C (100°F). There are components inside which produce heat. If there is insufficient ventilation around the chassis the processors will overheat and may act erratically until allowed to cool. Any cabinet should have adequate airflow to allow warm air to leave and cooler room air to enter. Positive ventilation is required in some installations due to the heat generated by the associated electronics.

A few notes about the SSP-60 and the Set-up

The SSP-60 offers Dolby Digital EX©, DTS-ES Matrix© Dolby Pro Logic II © and THX ULTRA2© decoding and has several modes that may be used to enhance a normal stereo signal. It also functions as a high quality stereo preamplifier. The 7.1 channel input is equipped with comprehensive volume control facilities and ensures that the SSP-60 may remain compatible with new multi-channel formats as they appear.

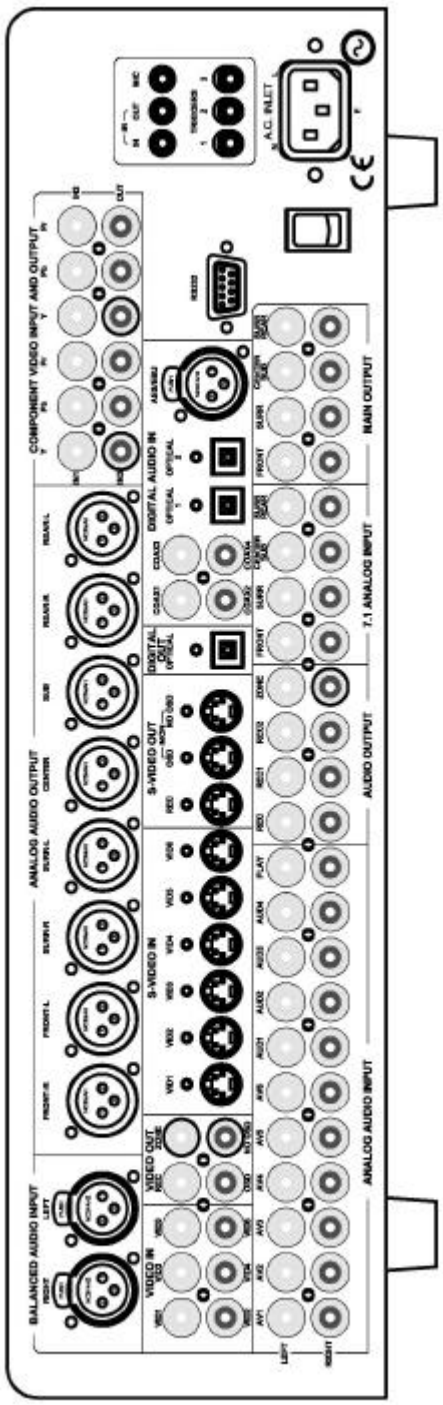
The SSP-60 accepts up to seven digital input sources, ten line-level input sources, one balanced analog input plus a tape loop and two additional record outputs. It has six composite and S-Video inputs, three component video inputs, composite, S-Video and component monitor outputs, composite and S-video record outputs and an S-Video monitor output without On Screen Display (OSD) for highest quality video performance.

The SSP-60 has two main modes of operation. In the normal operation mode the SSP-60 automatically senses the type of the incoming signal and selects the best mode for that signal. The user can over-ride the automatic selection and select different post-processing modes for the incoming signals. These modes include a mono down-mix, stereo, Stereo96, Dolby Pro Logic, Dolby Pro Logic II (Movie), Neo6 Cinema and four Music modes: Natural, Party, PLII Music, Neo6: Music. The user can bypass the digital section of the SSP-60, if desired, and connect, for example, a high quality stereo source to the Left and Right channels of the 7.1 channel input.

The SSP-60 is supplied with a comprehensive infrared (IR) remote control.

Options for system integration are provided by RC5 jacks to interface with other Classé products, by the three 12VDC trigger outputs to control external equipment and by communication with a PC or home automation system via the RS 232 interface.

The SSP-60 has a complete and well-thought-out panel of connections that can accommodate a complex audio and theater system.



SSP-60 REAR PANEL

Section 2.0 - Connecting the SSP-60

Use the diagram on the previous page to follow the discussion regarding input and output connections.

SAFETY NOTE: Before you begin work we very strongly advise that all electronic equipment be unplugged from the AC outlets or be switched off with the AC switch (NOT in Standby). Failure to follow the above advice can result in damage to speakers and to electronics and perhaps to you.

RCA-style cables should be *rotated (twisted)* slightly as you insert them into (or remove them from) the SSP-60's jacks.

2.1 **VIDEO INPUTS:** There are fifteen Video Inputs (3 Component, 6 S-Video and 6 Composite). The S-Video and Composite video inputs are assigned to the like numbered *analog* (AV) audio inputs: VID1 is associated with AV1, VID2 with AV2, etc.

2.1.1 **DIGITAL INPUTS:** The seven Digital Audio inputs may be assigned to any Audio source, (AV1 – AV6 and AUD1 – AUD4). Any Digital input may be assigned to more than one source.

2.1.2 **AUDIO INPUTS:** When an audio source is selected for listening, the analog (if any) signal assigned to that input will also appear at the record, record1, record2, and (if selected) at the remote zone outputs. Any Digital input assigned to the same source will be heard at the Main 7.1 outputs only. When you have both a digital and an analog input assigned to an audio source the *analog* signal will appear only at the three record outputs and (if selected) at the remote zone output. The Digital signal will be processed and routed to the main outputs and also appear unprocessed at the digital output. The analog signal going to the record-outs does not go through the A to D and D to A converters. The two signals are handled separately. There is no way to send the processed digital information to any of the record or remote zone outputs.

2.1.3 **PLAY INPUTS:** The PLAY input functions as part of a tape loop. It is designed to accept the output from a two-channel tape machine. Pressing the TAPE button on the front panel routes the analog audio signal on the PLAY input through the digital processor. Refer to Section 6 for more information on Taping.

2.1.4 **7.1 INPUTS:** These are analog audio inputs, designed to make it possible to listen to new multi-channel formats, such as SACD and DVD-Audio. These inputs are analog only. The input signal goes only through the volume control (still affected by your "speaker level" settings) and directly to the 7.1 Outputs.

2.1.5 **VIDEO INPUTS:** The three styles of video inputs are also separate from each other. A Composite video input signal will not be converted to S-Video nor to Component video. An S-Video input signal will be present on the Composite video outputs but not the Component video outputs. A Component video input signal will not be converted to Composite nor to S-Video. If you want to send video to the remote zone output you have to feed the SSP-60 a Composite video signal. Thus an S-Video signal can be sent to your television and to a recording VCR, while only Composite video can be sent to the remote Zone. (S-Video should be sent only over a short length of cable).

2.1.6 **IR IN:** There is one IR input which allows you to make a connection from the remote Zone area as well as from the Main listening/viewing area. The Zone can be controlled from either the Main area or Zone and the Main area can be controlled from either Main or the Zone area.

2.1.7 **IR OUT:** This output will permit you to control another piece of Classé equipment by repeating signals received through the front panel IR receiver of the SSP-60. For this purpose, you will need to install a 2 conductor shielded cable with 1/8" mini mono plugs at both ends from the SSP-60's IR OUT to the IR in of the other unit.

2.1.8 **MIC:** This input will permit you to connect the supplied calibration microphone. See section 5.2.5 for details on the auto calibration procedure.

2.2 OUTPUTS: Video outputs for Component, Composite and S-Video formats are provided. Both the Composite and S-Video formats have outputs with On Screen Display (OSD) and without On Screen Display (NO OSD). The OSD can be turned off and on. There is a Composite video output for the remote Zone and both S-Video and Composite video outputs for recording. The S-Video inputs also deliver Composite video output signals. (S-Video In to S-Video Out will deliver higher quality video). Both analog audio outputs and a digital audio output are provided from the SSP-60.

2.2.1 **7.1 AUDIO OUTPUTS:** The SSP-60 has both balanced and single ended 7.1 channel outputs. They deliver both stereo and multi-channel signals, depending on the source signal and the mode of playback you select. If you only have one rear speaker use the left SURR REAR 7.1 output.

2.2.2 **DIGITAL AUDIO OUTPUT:** The Optical digital output (TOSlink) delivers the same digital audio information that is present at the digital input of the selected source. Analog information will not be converted to digital for output here. This digital signal can be routed to another surround processor, digital recorder or to a high-quality digital-to-analog converter (DAC).

2.2.3 **REC AUDIO OUTPUTS:** There are three record audio outputs. They all carry the analog audio of the currently selected main Source (NOT the zone source or the PLAY input). **Digital Inputs are not decoded through these outputs.**

2.2.3.1 When deciding what input and output cable combinations you will need, you have to first decide how you will be using the processor. If you use the Remote Zone you can have two sources, each playing in a separate area. However, you cannot record one source while watching another, unless you use the Remote Zone output as a tape out. Be aware that to record a Satellite feed when you are listening to a decoded digital signal in the main area, you must have the analog audio and composite video signals from the Satellite receiver connected to the corresponding AV and composite video inputs.

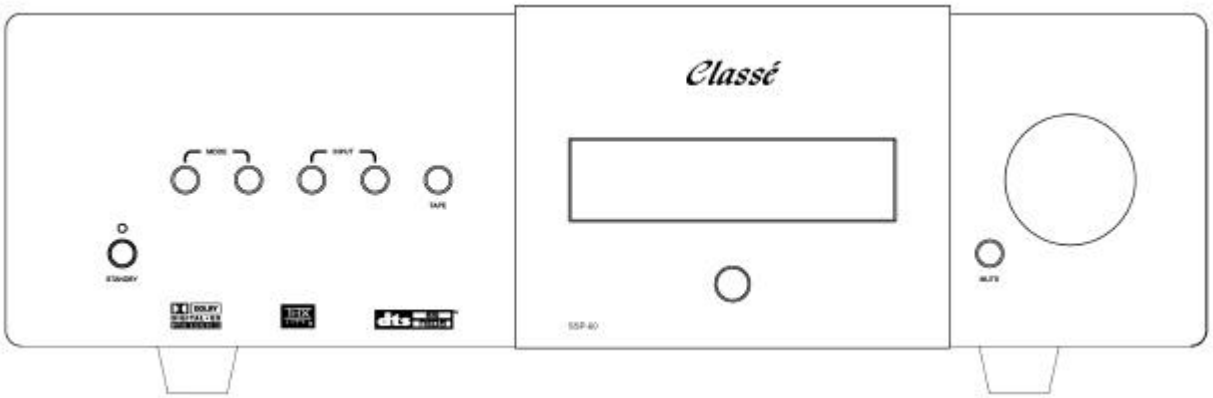
FOR EXAMPLE:

- Digital audio from the Satellite Receiver is plugged into COAX1
- COAX1 is assigned to AV1
- Analog two-channel audio output from satellite receiver is plugged into AV1 analog inputs
- S-Video from the Satellite receiver is fed to VID1 S-Video input
- Composite video from Satellite Receiver is plugged into VID1 Composite video input
- Select AV1 as source for Main area
- 7.1 Main outputs will contain decoded digital audio from COAX1
- Record outputs will contain signal only from analog inputs on AV1. The Zone output could also carry the AV1 analog signal, but only if AV1 is selected as the source signal for Zone.
- S-Video output from AV1 appears on S-Video OSD and NO OSD and on S-Video REC out.
- Composite Video from AV1 appears on Composite OSD and NO OSD, plus the REC and Zone Composite outputs (if Zone has AV1selected as its source).

With only a little thought and planning you can turn the SSP-60 into a versatile control center. To record a source, or to play music throughout your house you will need to connect both the digital and the analog inputs from several audio or audio video pieces, such as a CD player, a Satellite receiver or a DVD player. Refer to Section 6.0 for more information on using the tape inputs and outputs.

2.3 TRIGGER OUTPUTS: The three Triggers give you a great deal of control over your total system. Trigger 1 may be set up separately from Triggers 2 and 3. The triggers may be individually set up to enable and disable various other system components. The Triggers only deliver a control voltage, but the delivery can be configured in several ways to allow you to properly signal equipment to turn off and on. See Section 5.5: TRIGGER SETUP for a full explanation.

Section 3.0 - Front Panel Controls



SSP-60 FRONT VIEW

The SSP-60 operates intuitively. The seven controls on the face of the processor give you all the options you need to turn it on and use it successfully day after day.

3.1 The "**STANDBY**" button toggles the SSP-60 from standby to operate and vice versa. There is an on/off switch on the rear of the unit, which turns the AC on and off. When in "Standby" the LED above the button glows green, when in "Operate" mode the LED is out and the display is lit. Please note that if the remote zone is enabled, the display will read "Zone B On" when the unit is in Standby. See section 7.0 for details on the remote zone. The "Standby" button will also activate or de-activate the triggers depending on their settings. See section 5.5 for details on the trigger settings.

3.2 The "**MODE**" buttons are used to scroll through all the available Modes of operation. The available Modes depend on the type of the audio input signal. Appendix B shows all the available Modes (subject to change) and indicates which speakers are active.

3.3 The "**INPUT**" buttons are used to scroll through the available Sources: AV1 – AV6, AUD1 – AUD4, and the External 7.1 input. Please note that you have to go into the SOURCE SETUP menu to activate the balanced input. See section 5.3.4 for further details. Once the Sources are set up, you can select a source and the SSP-60 will begin to automatically process the audio or audio/video information correctly. If you wish to change the processing style you can use the MODE buttons to scroll to the preferred playback method. Please note that the availability of certain modes depends on the type of incoming signal. See APPENDIX B for details.

3.4 The "**TAPE**" button selects the "PLAY" input and sends this signal to the main output for monitoring. The previously selected Main Source remains as the source and continues to play through the record outputs. (See the notes in section 6.0 for more information on Taping).

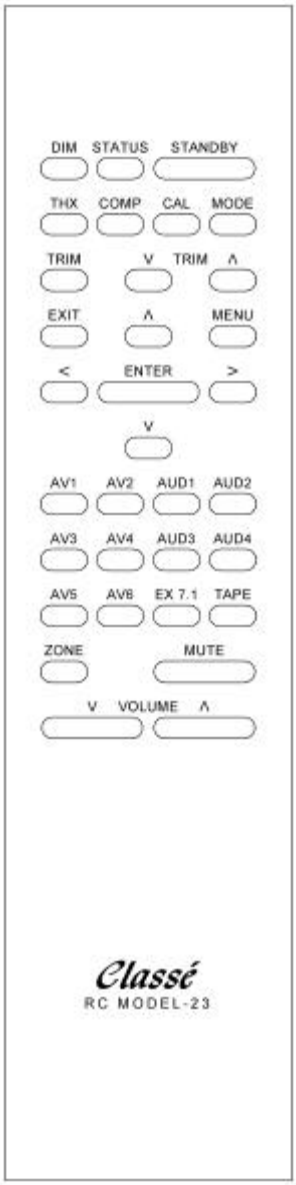
3.5 The "**MUTE**" button mutes the audio output. Press the button again to return to the previous listening level. Turning the volume up releases the Mute condition, while turning volume down maintains Mute until the Mute button is pressed again.

3.6 The unlabeled "**VOLUME**" knob changes the volume in all of the connected speakers. Turn this knob counterclockwise to reduce the volume and clockwise to increase it. When the SSP-60 is Muted the volume can be "reduced" using the Volume control without coming out of Mute, but if the knob is turned clockwise to increase the volume the SSP-60 will begin playing again immediately.

3.7 The front panel display shows the current operation of the SSP-60, including the selected input, the format of the signal being played, the selected playback Mode, and the current Volume level (or Mute condition).

Section 4.0 - The SSP-60 Remote Control

The keys on the SSP-60 remote control are laid out in an easy to use pattern. The keys have been grouped according to their use. The first three rows, DIM through TRIM /\, are a set of ten buttons with a variety of relatively unrelated tasks. The second section is made up of three rows beginning with EXIT and ending with the single key **\/**. These seven keys are used during the Setup of the surround processor. The five bottom rows, beginning with AV1 and ending with the VOLUME **/** key are the keys you will use most often. They include the keys used to directly access a Source, the MUTE and the VOLUME up and down keys, as well as ZONE. The following is a list of the Remote Control Keys and their functions.



DIM Press this key once to dim the display. A second press returns the display to its normal brightness. **NOTE**: The dim setting does not reset when the unit is put in STANDBY, though it will reset to bright if the rear on/off switch is cycled, or if the AC supply is interrupted.

STATUS Pressing the STATUS key causes the SSP-60 to display on the TV screen the setup for the currently selected Source. The displayed information includes the name of the input, the decode mode, the location and type of audio and video input selected.
NOTE: Similar information is always shown in the display window of the SSP-60.
Status will not be displayed if OSD is set to "OFF".

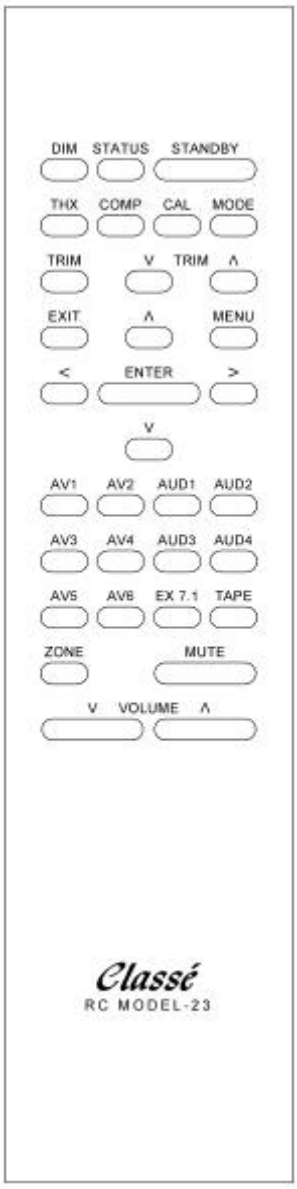
STANDBY toggles the SSP-60 from "standby" to "operate" and vice versa. There is an on/off switch on the rear of the unit, which turns the AC on and off. When in "Standby" the LED above the button glows green, when in "Operate" mode the LED is out and the display is lit. Please note that if the remote zone is enabled, the display will read "Zone B On" when the unit is in Standby. See section 7.0 for details on the remote zone. The "Standby" button will also activate or de-activate the triggers depending on their settings. See section 5.5 for details on trigger settings.

MODE Press the Mode key to scroll through all the available Modes of operation. The available Modes depend on the audio input signal type. Appendix B shows all the available Modes (subject to change) and indicates which speakers are active.

CAL Press the CAL key once you are in the "level setup" menu to initiate the pink noise test signal. This function is for manual calibration only. For auto calibration, see section 5.2.5 for details.

COMP Press this key to reduce the dynamic range of the audio. (The unit's display will show LateN ON when enabled and LateN OFF when disabled. The Screen will show LateNight ON or LateNight OFF). Utilizing a process called dynamic compression, the processor can prevent loud passages from getting too much louder than the normal passages. Turning on this feature allows you to enjoy your movie or other program when you don't want to disturb neighbors or family. Please note that this function is only available in Dolby Digital.

THX Press this key to enable the THX function (THX Music or THX AdvCine). To disable THX press the Mode key. For more advanced THX settings, see section 5.6 THX Audio Setup



TRIM Press this key to cycle through a list of options which will allow you to adjust the loudness of the Subwoofer, Center, or Surround speakers, or to temporarily alter the spectral balance of the sound in all speakers by adjusting the treble or the bass content. Use the TRIM /\ or \/ keys to adjust the selected parameter. This is a temporary adjustment - when the SSP-60 is put into Standby or is powered off the speaker levels will revert to the settings in the Level Setup (under the Speaker Setup menu) and the Treble/Bass settings will revert to the settings in the Audio Setup.

TRIM \/ Press this key to *decrease* the loudness of the speaker previously selected with the TRIM key, or to reduce the treble or bass content of the sound in all speakers.

TRIM / Press this key to *increase* the loudness of the speaker previously selected with the TRIM key, or to increase the treble or bass content of the sound in all speakers.

EXIT (CANCEL) Press this key to leave the Setup Menus without saving any of the changes you might have made.

/ This key has two functions: Press this key to navigate through the different selections available in the Setup Menus, while in a menu select or change a value. ALSO: After pressing the ZONE key (followed by the Standby key if the Zone had not been previously enabled), the **/** key will increase the volume at the Zone outputs.

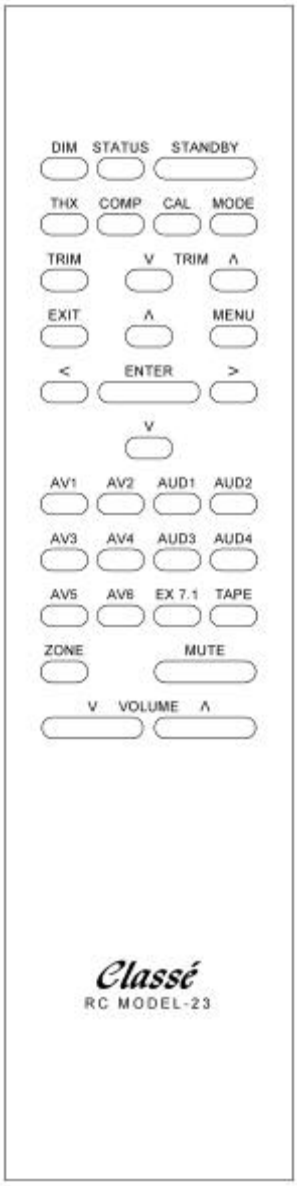
MENU Pressing the MENU key brings up the page of the Setup Menu you were last using. This makes it easy to return to a setup parameter you were trying to get just right. No matter where you start in the Setup Menu, you can quickly and easily navigate to any other section.

< This key has two functions: Press this key to navigate through the different selections available in the Setup Menus, while in a menu select or change a value. ALSO: After pressing the ZONE key (followed by the Standby key if the Zone had not been previously enabled), the **<** key will scroll through the Audio and Audio/Video Sources to play at the Zone outputs

ENTER The ENTER key is used in the Setup Mode to memorize a change, or to access a sub menu. When you are not in a menu, pressing the ENTER key once will scan through all of the active inputs.

> This key has two functions: Press this key to navigate through the different selections available in the Setup Menus, while in a menu select or change a value. ALSO: After pressing the ZONE key (followed by the Standby key if the Zone had not been previously enabled), the **>** key will scroll through the Audio and Audio/Video Sources to play at the Zone outputs.

\/ This key has two functions: Press this key to navigate through the different selections available in the Setup Menus, and while in a menu to select or change a value. ALSO: After pressing the ZONE key (followed by the Standby key if the Zone had not been previously enabled), the **\/** key will decrease the volume at the Zone outputs.



AV1 - AV6 These six keys each directly access one of the AV Sources consisting of a Video Input and a hard-wired Analog Audio input plus any associated Digital Audio input selected during setup. These keys can also be used to select Zone Sources.

AUD1 - AUD4 These four keys each directly access one of the Audio Sources consisting of a hard-wired Analog Audio input plus any associated Digital Audio input selected during setup. These keys can also be used to select Zone Sources.

EX 7.1 Press this key to listen to the Special 7.1 Analog inputs. (The 7.1 inputs cannot be accessed in the remote Zone.)

TAPE Press this key to listen to the PLAY input through the Main output. In a typical application you will use this key to monitor the quality of a tape you are making. The Main Source continues to be the Source selected, so you can continue to record. Toggle this Key to switch between Tape and main Source. Refer to section 6.3 for more information on the Tape Loop.

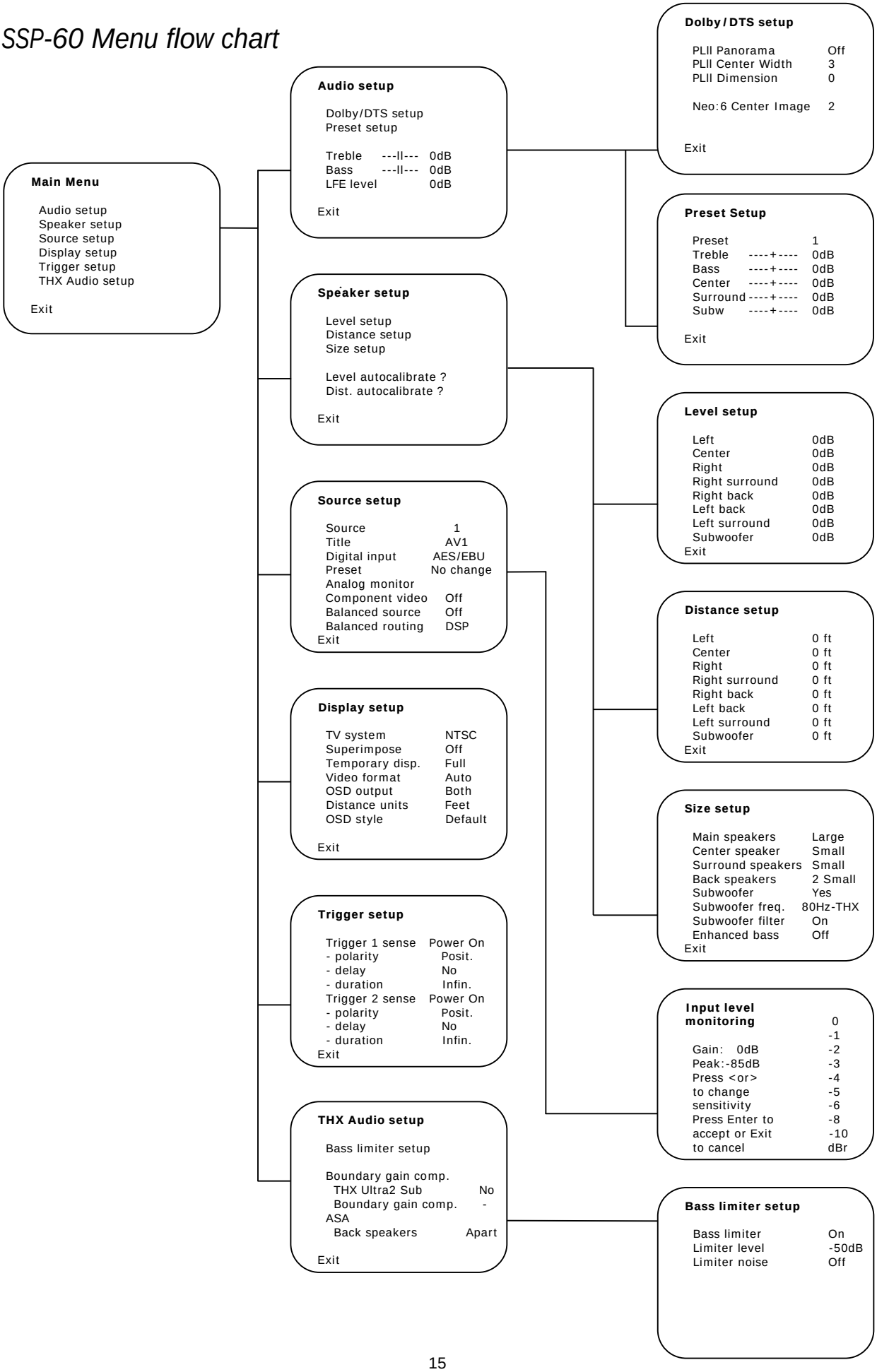
ZONE Press this key to enter Zone Access Mode. To enable the Zone output, press Standby. Press Standby again to shut down the Zone output. Press either the **\/** or **/** keys to decrease or increase the volume of the Zone output or the **<** or **>** key to scroll back and forth through the ten sources. You can also select Zone sources directly with the AV1-AV6 and AUD1-AUD4 keys. For more details, see section 7.0 on the Remote Zone use.

MUTE This key has two functions: Press this key to Mute the Main outputs. ALSO: After pressing the ZONE key (followed by the Standby key if the Zone had not been previously enabled), use this key to Mute the Zone outputs.

\/ VOLUME Press this key to decrease the volume of the Main outputs. This key affects the Main outputs OR the Zone outputs (if you are in the Zone control menu).

VOLUME / Press this key to increase the volume of the Main outputs. This key affects the Main outputs OR the Zone outputs (if you are in the Zone control menu).

SSP-60 Menu flow chart



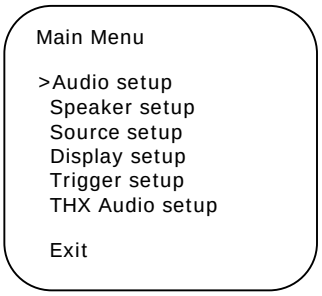
Section 5.0 - Setting Up the SSP-60

The SSP-60 has a complete and well-thought-out configuration system, flexible enough for even a complex audio and home theater system. You will find setup to be quite intuitive, and that once set up, operation of the SSP-60 will prove to be simple and straightforward.

Setup requires use of the supplied Classé remote control. You may use either the On-Screen (TV) menu or the illuminated front panel display. The two methods are equally easy to use and understand. The same highlighted selection on the TV on-screen display is visible on the unit's display panel (except the Analog Monitor sub-menu).

To begin: be sure the SSP-60 is on. If the SSP-60 display is not on, and the green LED above the standby button is not lit, then you must turn the power "ON" with the rocker switch above the AC cord on the rear panel. (The SSP-60 may be left in "Standby" mode indefinitely when not in use. You may wish to unplug it or turn it off completely when you will be away for a long period of time, or when a thunderstorm threatens). The backup Flash Memory does not require any maintenance since no battery is used in this system.

Pressing the MENU key on the remote accesses the main menu. The **/** and **\/** keys (above and below the ENTER key) scroll through the main menus and the sub-menus, positioning the cursor beside the choices. Press the ENTER key to access the menu item you have highlighted.



TV Display

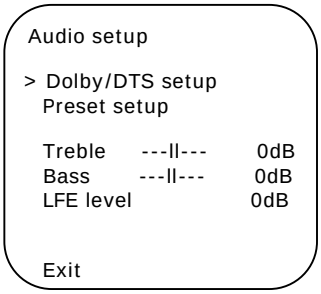
These displays show that you have accessed the Main menu and highlighted the Audio setup feature. You can scroll through the available choices by pressing the \/ and /\ buttons on the remote. When the cursor points to the feature you wish to adjust, press the ENTER key. To leave the menu and save the settings scroll down to Exit and press the ENTER key.

Panel Display

Pressing the **MENU** key to begin setup brings up screens similar to the ones above. Six sub menus and Exit are displayed:

1. Audio Setup	In this submenu you can configure the Dolby/DTS setup, the five custom audio presets, as well as the overall Bass and Treble controls and LFE level.
2. Speaker Setup	In this submenu you can configure the speaker levels, distances and sizes. This submenu also includes the level and distance auto-calibrate options.
3. Source Setup	In this submenu you can define your input Sources, name them, assign the associated digital inputs (if any) and presets, and also the sensitivity of the analog inputs (under "Analog Monitor"). This sub-menu also permits you to enable any of the three Component video inputs, select the balanced audio input as source and enable or bypass the DSP processing for this balanced signal.
4. Display Setup	In this submenu you can select various Video options, including NTSC or PAL and On-Screen-Display (OSD). This sub-menu also permits you to set the distance units in feet or meters.
5. Trigger Setup	Defines the use of the three Voltage Triggers available on the back panel.
6. THX Audio Setup	In this submenu you can select the various parameters of THX operation.
7. Exit	Memorizes current settings and returns to full operation.

5.1 AUDIO SETUP:



TV Display

These displays show that you have accessed the Audio setup sub-menu and chosen the Dolby/DTS setup. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the feature you wish to adjust is highlighted press the **<** or **>** key to decrease or increase the level. To leave the menu and save the settings scroll down to Exit and press the ENTER key.

Panel Display

5.1.1 Audio setup: The Audio setup includes Dolby/DTS setup, Preset setup, Bass and Treble controls, and LFE (Low Frequency Effects) level adjustment.

- Treble and Bass settings can be adjusted plus or minus 12dB in 1dB steps.
- The LFE (Low Frequency Effects) channel contains only low frequency signals. It is the "0.1" of the 5.1 or 7.1 channel digital surround signal. The LFE channel is present only with Dolby Digital, Dolby Digital EX, DTS and DTS-ES sources. The LFE level can be set from –10dB to 0dB.

5.1.2 Dolby/DTS setup: This sub menu permits the following adjustments for the Dolby Pro Logic II Music mode and DTS Music mode.

Dolby Pro Logic II Music mode setup:

- "PLII Panorama" setting (ON/OFF) affects the surround sound field. With PLII panorama "On", the sounds from the front channels are spread to the surround channels.
- "PLII Center Width" (Min to Max) allows the adjustment of the Center image from all front speakers to varying degrees.
- "PLII Dimension" (-3 to 3) controls the front-to-surround balance of the sound field.

DTS Music mode setup:

- NEO:6 Center Image (0 to 6) controls the balance between the center and the left and right front channels.

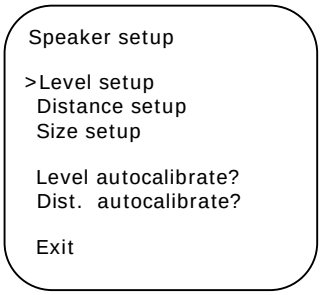
5.1.3 Preset setup: The Presets are used to temporarily change the bass and treble controls and the levels of the center, surround and subwoofer speakers. The Preset setup allows one to program five different presets, which can be assigned to any source in the "Source setup menu". This will be useful in the event that you require a different tonal balance depending on the source you are using in your system. For example, you might decide to have a different bass and treble setting for playback from your VCR.

For as long as the specific source is selected:

- The preset Treble and Bass settings replace the settings in the Audio setup
- The preset Center, Surround, and Subwoofer levels are added to values in the Level setup.

5.2 SPEAKER SETUP:

Although this manual is following the setup sub-menus in the order they appear on the Main menu screen, you will need to set up the speakers first in the "Size setup" - Section 5.2.4. It will make it easier to properly set the speaker output levels if you have configured the SSP-60 so it "knows" what speakers you have in the system as well as the speaker sizes. You should also consult the manual for the speakers and for the subwoofer and decide what crossover frequency you should set for the subwoofer. Usually the crossover frequency will be around 80 Hz, but if your speakers are small and have no real bass capability you may wish to get more information from the woofer by setting the crossover at 100 or 120Hz. You may also wish to check with your dealer about this section of the setup sequence.
Once the speaker sizes are set, use the "Distance setup" (Section 5.2.3), or 'Dist. autocalibrate' (Section 5.2.5) to set the correct distances before moving on to the "Level setup" or "Level autocalibrate" sub-menus.



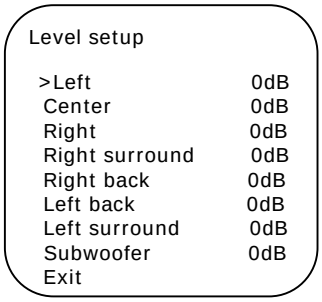
TV Display

These displays show that you have accessed the Speaker setup sub-menu and highlighted the Level setup. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the sub-menu you wish to adjust is highlighted press the ENTER key to make a selection. To leave this menu scroll down to Exit and press the ENTER key.

Panel Display

5.2.1 Level setup: There are two ways to calibrate the speakers with the SSP-60. You can do it by hand with the aid of a Sound Pressure Level (SPL) meter. An inexpensive but relatively accurate meter is available at most Radio Shack stores, or through their catalog. You can also do it automatically using the supplied microphone and the auto-calibrate procedure (refer to section 5.2.4 for more details).

Classé recommends all speakers be set at equal levels, at a sound pressure level of 75dB. This level will usually enable you to watch movies with the Volume control set at 0dB, depending of course upon the show, how loud you like to listen and, of course, your neighbors.



TV Display

These displays show that you have accessed the Level setup sub-menu and highlighted the Left Front speaker level control. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the speaker you wish to adjust is highlighted press the **<** or **>** key to decrease or increase the level. To leave the menu and save the settings scroll down to Exit and press the ENTER key.

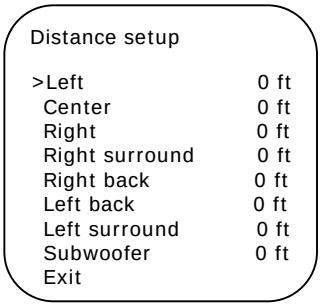
Panel Display

Highlighting a speaker selection does not cause that speaker to play pink noise. To play pink noise at the relative level displayed on the right side of the screen or panel, you must press the CAL key on the remote control to start the test signal. The SSP-60 will immediately begin playing pink noise through one speaker after another. Next, use the **/** or **\/** keys to scroll to each speaker you wish to test/adjust. Press either the **<** or **>** key to begin playing pink noise through the selected speaker. Continue to press the **<** and **>** key to adjust the volume of that speaker until the SPL meter reads 75 dB. The **>** key increases speaker SPL and the **<** key decreases SPL. Use either the **/** or **\/** to scroll to the next speaker you wish to adjust, use **<** or **>** to start it playing and correct the adjustment.

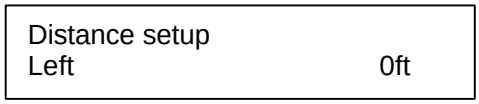
When you are satisfied with the levels of the speakers let the pink noise cycle through all the speakers a few times to be sure all the audio output levels are the same, then press CAL to exit the test signal. Scroll down to "Exit" and press ENTER to exit the Level Menu. The settings will be memorized.

5.2.2 Distance setup: This menu is used to synchronize the sound coming from several speakers so it arrives to the listeners' ears at the same time. Proper synchronization makes it possible for the listener to localize the apparent source of a sound in the surround environment. Setup of the delay time to be applied to the Center and Surround speakers is a simple matter of measuring the relative distances from the listener to the speakers.

Measure the distances of all your speakers from the listening position. The Left and Right Front speakers should each be approximately the same distance from the listening position. If the difference between the left and the right front channels exceeds 2 feet or 0.7 meters, an error message will appear showing that the delay exceeds 2 ms between the left and the right main channels.
To change the unit of measurement used in the distance setup, you must go to the "display setup" menu and select feet or meters.



These displays show that you have accessed the Distance setup sub-menu and highlighted the Left speaker distance. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the speaker you wish to adjust is highlighted press the < or > key to decrease or increase the level. To leave the menu and save the settings scroll down to Exit and press the ENTER key.

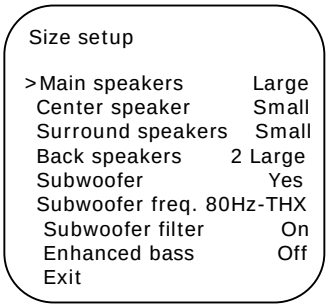


TV Display

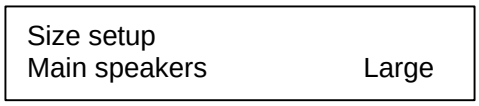
Panel display

- You can set the speaker distances by pressing the left and right arrow keys. The range of adjustment is from 0 ft to 63 ft (21m). However, the maximum recommended difference between the nearest and most distant speaker is 15 ft (5m). Distance values outside of the above stated limits will be displayed in a different color, usually red. The most distant speaker should be moved closer or the nearest speaker should be moved further to avoid this situation.
- If a speaker is not defined in the Size setup, "None" is displayed and the distance cannot be changed.

5.2.3 Size setup: The size setup defines which speakers can handle full range signals as in the case of "Large" speakers. The subwoofer settings are also in this menu.



These displays show that you have accessed the Size setup sub-menu and highlighted the Main speaker size control. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the speaker you wish to adjust is highlighted press the **<** or **>** key to set the speaker size. To leave the menu and save the settings scroll down to Exit and press the ENTER key.



TV Display

Panel Display

- Speakers that can handle a full range frequency signal should be set to "Large."
- Speakers that cannot handle a full range frequency signal should be set to "Small." The bass portion of their signal will be redirected to the front large speakers or the subwoofer if present.
- If a speaker is not present (e.g. Center) you should set it to "None."
- If there is only one rear speaker connected, select "1 Small" or "1 Large" depending on the size of the speaker and connect this rear speaker to the LEFT SURR REAR output of the 7.1 output section.
- If the subwoofer filter is set to off, the signal from the small speakers is fed to the subwoofer without the digital low pass filter. The crossover frequency setting will have no effect. You may wish to do this if your subwoofer has its own built-in filter.

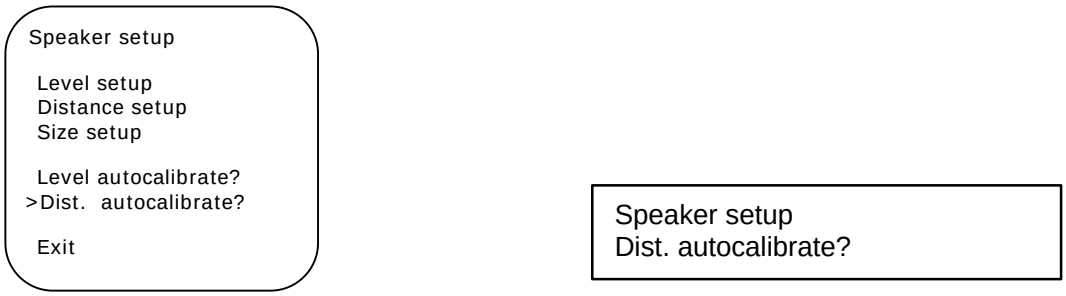
5.2.3 Size setup (Continued):

You can set the subwoofer crossover frequency from 40 Hz to 140 Hz in 10 Hz steps (the slope is 24dB per octave). The crossover frequency is the frequency below which the bass signal does not go to small speakers, but is redirected to the large speakers or subwoofer.

- Enhanced Bass duplicates the subwoofer information to both the large speakers and the subwoofer. You may desire this in some cases to get more bass from your system.

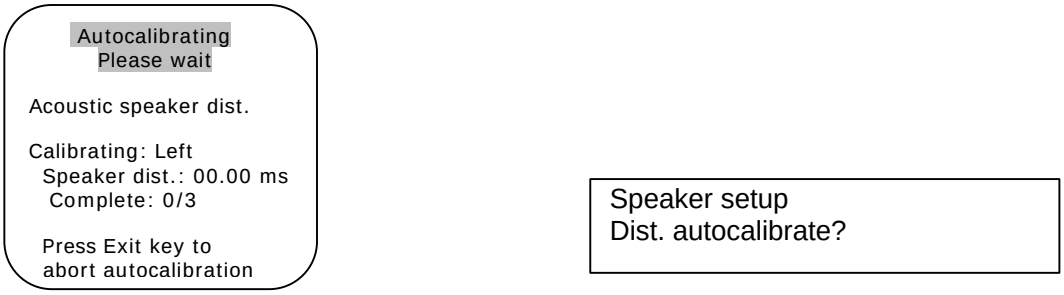
Classé recommends a conservative approach towards speaker setup. Setting up medium sized speakers as Large may degrade the sound by asking speakers to do more than they can. Subwoofers are very good at filling in the low frequencies for a whole system. If you don't let them provide the full amount of low frequencies required to balance your system you will often miss some of the sound effects in music and AV program.

5.2.4 Auto-calibration: Automatic calibration is easier but will work properly only in a quiet environment. Too much ambient noise such as air conditioning, forced air heating, or people talking in the room can cause the auto-calibration to fail. First, insert the battery in the calibration microphone. Plug the microphone into the MIC input at the back of the SSP-60. Turn the microphone on and install it at the preferred listening position (or in the middle of the seating area) pointing straight up (this microphone is omni-directional). Do not hold the microphone in your hand. Use a microphone stand or a camera stand or simply prop it up with pillows.



TV Display Panel display

Before you begin, set the volume level of the SSP-60 to a reasonably loud level (start around -10) and turn up your subwoofer level. To activate distance auto-calibration place the cursor at "Dist. Autocalibrate ?" and press ENTER. The monitor screen will immediately change to the following:



TV Display Panel display

The process will stop when all speakers' delays (distances) have been properly calibrated, unless there is an error. If the speakers are too far apart or not set up correctly, the process will stop. The process will also cease if the speaker it is attempting to calibrate is not attached or of the initial noise level from the speaker is too low. When this situation occurs, an error message (autocalibration error) will appear at the top of your TV display (or screen). You will then have to press any key on the remote to continue.

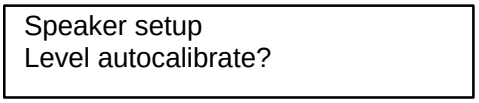
The calibrating process will generally begin again with the speaker it stopped at. We have observed that, depending on the acoustics of your listening space, the subwoofer distance auto-calibration may fail or return unreasonable results. If this happens try one of the following solutions: If the subwoofer level was very soft during the first pass of the auto-calibration

process, increase it a bit to make the signal more audible. Try raising the crossover frequency of the subwoofer (in the "Audio Setup" menu) or turning the subwoofer filter off (which will make the selected crossover frequency irrelevant). If all these measures fail, you will have to enter the subwoofer distance manually through the "Distance Setup" menu.

Once you have finished with distance calibration of all the speakers in your home theatre system, you can then go to the level calibration.

Before proceeding to **Level autocalibrate** bring your main volume down to -20**.** When you select Level autocalibrate and press ENTER the monitor screen will immediately change to the following:

TV Display



Panel display

Pink noise (at a low level) will automatically begin from the left front speaker and rise slowly in volume. The SSP-60 generates this noise, listens through the microphone, then increases the signal level gradually until the Sound Pressure Level at the listening position is 75 dB. The SSP-60 will test every speaker in the same sequence as described above and set their levels to 75 dB.

The process will stop when all speakers have been properly calibrated, unless there is an error. If there is too much ambient noise, the process will stop. The process will also cease if the speaker it is attempting to calibrate is not attached or if the initial noise level from the speaker is too low. When this situation occurs, an error message (autocalibration error) will appear at the top of your TV display (or screen). You will then have to press any key on the remote to continue. The process will begin again from the point at which it had stopped.

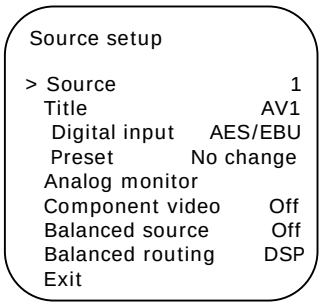
We have observed that some sub-woofers are extremely sensitive and require that their own input level be reduced.

Please note that the distance values obtained with the autocalibration can vary depending on the acoustics of the room in which the system is installed.

5.3 SOURCE SETUP:

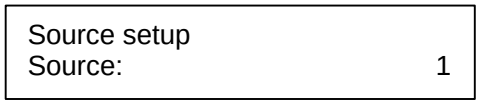
Source setup is an easy task and should go quickly. In the "Source setup" menu you assign the digital audio inputs to the AV1 through AV6 video inputs (up to the number of Video inputs you will be using) and to the AUD1 through AUD4 inputs (up to the number of Audio only inputs you will be using). The analog inputs are not assignable; VID1 through VID6 have AV1 through AV6 individually permanently assigned. AUD1 through AUD4 and PLAY are all analog inputs, but AUD1 – AUD4 can have a Digital input assigned to them. PLAY is an analog-only two-channel input intended for use with the Monitor Out of a quality tape recorder. PLAY may also be used as the input of a processor loop if you wish to add an equalizer or other external processor. *See the notes in Section 2 which discusses utilizing both a digital input and an analog input for each source.*

As you can see from the on-screen display, the individual inputs are numbered 1 through 10, the first six are the dedicated Video sources (AV1 – AV6) and 7 through 10 are dedicated as audio-only sources (AUD1 – AUD4). To enable the **balanced input**, see section 5.3.4 on 'Balanced Source' and section 5.3.5 on 'Balanced Routing'.
There are seven Digital Audio inputs. Each may be assigned to any of the ten sources, including assigning one digital input to more than one Source. If, for example, you wanted to utilize a CD/DVD player like our CD/DVD-1 as both a CD player and a DVD player you might want to assign the AES/EBU digital input to both the AV1 source and to the AUD1 source.



TV Display

These displays show that you have accessed the Source setup sub-menu and highlighted the Source 1 input. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the selection you wish to adjust is highlighted press the < or > key to scroll through the choices. To leave the menu and save the settings scroll down to Exit and press the ENTER key.



Panel Display

You may wish to change the names of the Sources, to make it easier to see what is playing as you move from one Source to another. The new name can be a sequence of up to 7 letters, numbers or symbols. To do this, highlight "Title", then press the ENTER key. Now you can use the **\/** and **/** keys to scroll through the available letters and characters until you find the one you want. Move to the next position with a **>** or **<** key and continue changing characters. When you have completed the change press the ENTER key again. You can now scroll to Exit, or any other parameter you wish to change. When you are finished naming a source, you can scroll back to "Source" and use the **<** or **>** keys to select a new source.
It is quite simple to assign a digital input to any of the sources. First select the Source you want to attach the digital input to, then scroll to "Digital" and finally scroll through the digital input options by pressing the **<** and **>** keys. If there is no digital input assigned to a particular Source, make sure to set the "Digital Input" option to Off.

5.3.1 Preset: The Preset parameter assigns one of the five Presets defined in the preset setup to the selected source. When this source is selected, the assigned Preset settings are activated. If the setting is 'no change', then the last selected Preset settings are still active. If you want to set the trim settings to "flat" (nominal), select 'flat trim'. All level trims will be set to 0dB (no change from the nominal values as entered in Level Setup) and the treble and bass trims will be set to flat (so these controls will default to the values defined in Audio setup).

5.3.2 Analog monitor: Analog monitor is a link to a special screen mode, which can be seen only when using the On Screen Display. You can use this mode to adjust the sensitivity of the SSP-60's analog inputs.
First, you will need to play some music which has high peak levels, and see if the signal clips. Use the LEFT (<) and RIGHT (>) keys to adjust the gain so that the signal never clips, but in a manner that the signal peaks will come within a few decibels below the 0dB level. You can change the scale with the UP (/\) and DOWN (\/) keys. Press ENTER if you want to accept the new value or the EXIT key to keep the old value. NOTE: This screen can also be used for monitoring digital input levels, but the input gain cannot be changed.

5.3.3 Component video: This sub menu permits you to enable or disable the component video inputs. Use the > or < keys to scroll through the four choices: Off, 1, 2 or 3. The numbers correspond to the respective component video inputs. In "Off" mode, the Component video inputs are disabled.
PLEASE NOTE THAT THERE IS NO ON-SCREEN DISPLAY THROUGH THE COMPONENT VIDEO OUTPUT.

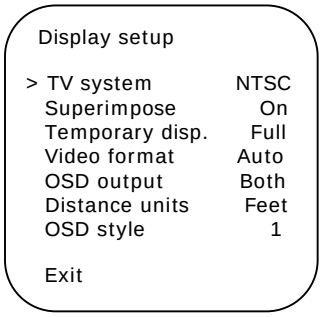
5.3.4 Balanced source: This sub menu permits you to assign the analog balanced input to any of the sources, (AV1- AV6 and AUD1- AUD4). Use the > or the < keys to scroll through the choices. In the "Off" setting, the balanced input is disabled.

5.3.5 Balanced routing: This sub menu gives you the choice to route the balanced input through the DSP or to use it in "BYPASS" mode.

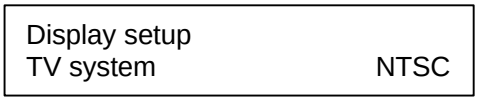
PLEASE NOTE THAT WHEN THE BALANCED SIGNAL ROUTING IS SET TO BYPASS, THE BALANCED INPUTS WILL BE ROUTED TO THE LEFT AND RIGHT BALANCED OUTPUTS ONLY (via the volume control). WHEN THE BALANCED ROUTING IS SET TO DSP, THE STEREO, STEREO96, PRO-LOGIC, PLII MOVIE, PLII MUSIC, NEO6 CINEMA, NEO6 MUSIC, NATURAL, PARTY AND MONO MODES ARE AVAILABLE.

5.4 DISPLAY SETUP:

These settings are mainly "set and forget", with the possible exception of OSD output. We have shipped your SSP-60 with the "TV System" set to the correct format for your Country. If you are, however, having trouble with the picture it may be that the wrong format is set. This is easy to correct. Using the display on the front panel of the SSP-60, navigate to the Display setup screen and change the format to PAL or NTSC, whichever is correct for your TV and DVD player.



These displays show that you have accessed the Display setup sub-menu and highlighted TV System. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the selection you wish to adjust is highlighted press the < or > key to scroll through the choices. To leave the menu and save the settings scroll down to Exit and press the ENTER key.



TV Display

Panel Display

5.4.1 TV System: Use **<** or **>** to switch between NTSC and PAL.

5.4.2 Superimpose: Use **<** or **>** to change. "On" superimposes text over the TV picture, while "Off" allows the OSD to completely replace the TV picture.

5.4.3 Temp. Display controls how long any On Screen Display remains present. Use **<** or **>** to change. It is possible to set the parameter to "Full" (on all the time), "Simple" (on for a few seconds), or "Off" (disables OSD entirely).

5.4.4 Video Format can be set to S-Video output or Composite, or Auto. "Auto" automatically selects the best source present. Use **<** or **>** to change.

5.4.5 OSD Output Use **<** or **>** to change. OSD can be applied to the Composite, or S-Video Monitor outputs, or both, or it may be switched Off. OSD is not available on the "NO OSD" outputs.

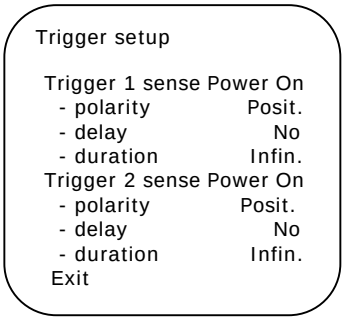
5.4.6 Distance unit is setup in feet or meters **for use in the Delay Setup sub menu**.

5.4.7 OSD style changes the screen and text color if "Superimpose" is switched Off.

5.4.8 Exit returns to the Main Menu.

5.5 TRIGGER SETUP:

There are three Voltage Triggers on the SSP-60. They are used to turn associated equipment on and off.



TV Display

These displays show that you have accessed the Trigger setup sub-menu and highlighted Trig1 sense. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the selection you wish to adjust is highlighted press the < or > key to scroll through the choices. To leave the menu and save the settings scroll down to Exit and press the ENTER key.

Panel Display

Trigger 1 controls the TRIGGER 1 voltage output and Trigger 2 controls the TRIGGER 2 *and* TRIGGER 3 outputs. TRIGGER 2 and TRIGGER 3 always turn On or Off at the same time. Use the **\/** and **/** keys to select and use the **<** and **>** keys to cycle through the available choices. The following applies to both Trigger 1 and Trigger 2.

5.5.1 Trigger sense selects what event will activate the Trigger output. Set "sense" to Power On to activate the trigger when switching out of STANDBY (and de-activate it when returning to STANDBY). Alternatively the trigger output may be activated when a particular Source is selected.

5.5.2 Trigger polarity sets the state of the trigger output. "Posit." provides a +12V DC output when the trigger is active and no voltage when inactive. "Negat." sends no voltage output when the trigger is active and +12V when inactive.

5.5.3 Trigger delay sets a delay between the "sense" signal and the trigger output voltage changing. The delay may be set to various times from 1 second to 3 minutes or to "No" which gives no delay.

5.5.4 Trigger duration sets the period (duration) that the trigger output is active. The trigger duration may be set to various times from 10ms (milliseconds) to 3 minutes, or to "Infin." which keeps the trigger active while the "sense" condition prevails.

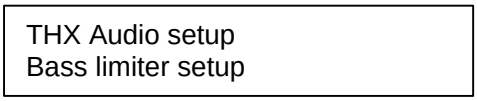
Exit returns to the main menu

5.6 THX AUDIO SETUP

These settings will permit you to access the various THX parameters of the SSP-60. The SSP-60 features THX ULTRA2 processing which incorporates BGC (Boundary Gain Compression) and ASA (Advanced Speaker Array). The directional characteristics of the new THX ULTRA2's left, right, center and rear surround speakers have been revised to minimize any changes in the perceived timbral balance over the widest possible listening area. Furthermore, ULTRA2 subwoofers now have bass extension down to 20Hz, to reproduce in a much better fashion the very low frequency information increasingly found in modern digital multi-channel recordings.

TV Display

These displays show that you have accessed the THX Audio setup sub-menu and selected the Bass limiter setup. You can scan through the available choices by pressing the \/ and /\ buttons on the remote. When the selection you wish to adjust is highlighted press the < or > key to scroll through the choices. To memorize and Exit, place the cursor beside Exit and press the ENTER key.



Panel Display

5.6.1 Selecting "Bass limiter setup" and pressing Enter takes you to the Bass limiter setup submenu. In this submenu you can enable the Bass limiter, adjust the limiting level (the loudness which the bass signal will not be allowed to exceed), and listen to a noise signal at the selected level (to hear how loud the bass gets). These options allow you to control the amount of bass level sent to your subwoofer so that excessive bass peaks (like explosions in a movie or cannon shots in Tchaikovski's 1812 overture) don't damage your sub and don't disturb the neighbors.

5.6.2 THX Ultra2 Sub option allows you to enable the THX ULTRA2 Sub mode if you have a THX-certified Subwoofer installed in your system.

Boundary gain compensation (BGC) is used to counteract 'BOOMY' bass performance that can occur when the sub(s) are near a wall. NOTE: THX ULTRA2 Sub has to be ON if you want to enable BGC.

5.6.3 ASA (Advanced Speaker Array) permits you to group the surround rear speakers together or to use them as two separate channels. When used "together," the same signal is available from both surround rear channels. To select, simply place the cursor beside 'Back speakers' and use the > or < buttons on the remote to scroll to your desired choice.

Please note that depending on the signal type and the mode of processing you will have to press either the THX button or the MODE button to disable THX processing once it has been activated.

Please refer to Appendix D for details on which THX modes are applicable to each type of input signal, processing mode, and speaker configuration.

Section 6.0 – Using the Tape Inputs and Outputs

RECORDING AUDIO/VIDEO, AUDIO ONLY AND DIGITAL AUDIO/VIDEO

The SSP-60 does NOT send decoded digital information to the record outputs. *You must connect a two-channel analog feed from a source to AV1-AV6 or AUD1-AUD4 in order to be able to record it.* The Source being played in the Main area appears at the three Record Outputs.

There is one TOSlink digital audio output. It does not matter which style of Digital input is selected. The data available is the same data as input to the currently selected digital audio Source. This data can be delivered to and recorded by a digital VCR. Since there is only one Digital output, if you wish to send the data to a recorder and another processor, use the Digital output of the recorder to send the signal to the second processor.

6.1 RECORDING AUDIO/VIDEO, ANALOG

Setup for recording Audio and Video to an analog VCR is described below. The PLAY input and REC output are a tape loop, so you cannot record anything fed to PLAY, except at the two-channel only REC1 and REC2 outputs. *When the primary source is digital you must be sure you connect the analog output from the digital source to the same SOURCE the digital audio is assigned to.*

6.1.1 **DVD ⇨ SSP**. Use a two channel analog audio cable to connect the analog output (mixed two channel) of the DVD player or Satellite receiver, etc, that you wish to record, to the analog input of the SOURCE the digital input is assigned. This must not be VIDEO 6.

6.1.2 **DVD ⇨ SSP**. Use an S-Video or Composite video cable to connect the video out of the DVD player or Satellite receiver, etc. , that you wish to record, to the same SOURCE the digital input is assigned to, and to which the analog audio is connected. (S-Video will convert to Composite, but not vice-versa). Do not connect to VIDEO 6.
NOTE: Component Video does not convert to either of the other formats, so you must connect S-Video or Composite Video. Although your best viewing may be through Component Video, you cannot record it through the SSP-60.

6.1.3 **VCR ⇨ SSP**. Use a two channel analog audio cable to connect the analog output from your VCR to the AV 6 analog Inputs.

6.1.4 **SSP ⇨ VCR**. Use a two channel analog audio cable to connect the Record Output connectors of the SSP-60 to the audio input connectors of the recording component.

6.1.5 **VCR ⇨ SSP**. Use an S-Video or Composite video cable to connect the video out of your VCR to the VIDEO 6 S-Video or Composite video input.

6.1.6 **SSP ⇨ VCR**. Use an S-Video or Composite video cable to connect the S-Video or Composite video record outputs of the SSP-60 to the S-Video or Composite video input of the VCR.

6.1.6.1 Follow the usual VCR instructions for recording. The record output at REC, REC1, REC2, always follows the input on VIDEO 1 through VIDEO 6.

6.2 RECORDING ANALOG AUDIO ONLY

Setup for recording Audio to an analog two-channel tape machine is described below. *When the primary source is digital, you must be sure you connect the analog output from the digital source to the same SOURCE the digital audio is assigned to.*

6.2.1 **SSP ⇨ TAPE**. Use a two-channel analog audio cable to connect the analog REC, REC1 or REC2 outputs of the SSP-60 to the record input of the Tape Machine or other analog recording component.

6.2.2 **TAPE ⇨ SSP**. Use a two-channel analog audio cable to connect the analog output from your Tape Machine to any analog audio only Input (AUD 1 through AUD 4).

6.2.2.1 Follow the usual recording component instructions for recording.

6.3 RECORDING DIGITAL AUDIO/VIDEO

Setup for recording a digital audio signal plus Video to a digital Audio/Video recording device is described below.

There is one digital audio output. The digital output signal is the same data as input to the currently accessed digital audio input. If you are watching a Movie from a DVD player and wish to record it for future viewing you can use a digital VCR or other digital recording component.

6.3.1 **SSP ⇨ D-VCR**. Use a digital TOSlink cable to connect the output from the SSP-60's DIGITAL OUT to the digital input of the digital recording component.

6.3.2 **SSP ⇨ D-VCR** Use an S-Video or Composite video cable to connect the REC S-Video or Composite video output of the SSP-60 to the S-Video or Composite video input of the recording component.

***OR*:**

6.3.3 **SSP ⇨ D-VCR** Use an S-Video or Composite video cable to connect the free S-Video or Composite video Monitor output of the SSP-60 to the S-Video or Composite video input of the recording component. This is a useful workaround if you are using the REC video output to feed an analog VCR.

6.3.4 **D-VCR ⇨ SSP**. Use a digital Coaxial or TOSlink cable to connect the digital output of the of the digital recording component to any available digital inputs (COAX 1 through COAX 4, or TOSlink 1or TOSlink 2 or AES/EBU).

6.3.5 **D-VCR ⇨ SSP**. Use an S-Video or Composite video cable to connect the video out of the DVD player or Satellite receiver, etc. , that you wish to record, to the same SOURCE the digital input is assigned to, and to which the analog audio is connected. (S-Video will convert to Composite, but not vice-versa). Do not connect to REC.

6.3.5.1 Follow the usual recording component instructions for recording. The digital output of the SSP-60's DIGITAL OUT always follows the digital input assigned to the currently selected source.

6.4 RECORDING DIGITAL AUDIO ONLY

6.4.1 **SSP ⇨ D-VCR**. Use a TOSlink cable to connect the output of the SSP-60's digital out to the digital input of the digital recording component.

6.4.2 **D-VCR ⇨ SSP**. Use a digital Coaxial or TOSlink cable to connect the digital output of the of the digital recording component to any available digital inputs (COAX 1 through COAX 4, or TOSlink 1or TOSlink 2 or AES/EBU).

Section 7.0 - Remote Zone Use

One of the strengths of the SSP-60 is its ability to send a separate program to a remote Zone. It can send a Composite picture (from a Composite input) and an analog two-channel audio signal to another room or a whole house if you wish. You can send the same movie or program you are watching or an audio program or music from another source if you wish. Though the REC outs only send the same signal (analog only) as the Main area is watching and/or listening to, the Zone output can be from any analog audio source (except 7.1) and the attached Composite video Source.

You must use the remote control to access the remote Zone. Press the Zone button on the control. The panel of the SSP-60 (but not the OSD) will display the following.

Panel display

Zone B off
Stereo M.Z: -20

Panel display

Zone: AV1
Stereo Z.v: -20

To enable the 'Zone B', press 'Standby'. The display (see the right display above) shows you are currently sending the AV1 signal to the remote Zone (along with the associated composite video signal VID1), and the zone volume is set at -20 dB. The display will be present for only a few seconds, unless you press the Zone button again or one of the arrow keys situated around the ENTER key. The Volume **/** or the Volume **\/** key (or alternatively the **/** or the **\/** keys) on the remote control the audio volume level of the remote Zone.

If you wish to change the Source which is routed to the remote Zone, press the **<** or **>** keys to scroll through the ten analog audio Sources (the first six of which are associated with the corresponding composite video sources VID1-VID6). You can also select Zone sources directly with the AV1-AV6 and AUD1-AUD4 keys.

Because you can use a different source from the one in the main area, it is possible to use the Zone as a record out. You would need to do a certain amount of experimenting to insure you were not sending too hot an audio signal to the recording device, and the quality of the recorded video will be limited by the quality of a Composite video signal. Though the Zone out is really designed to add the ability to feed other rooms with different program material, it is possible to come up with other uses for it.

APPENDIX A RC5 Codes for Classé SSP-60

Below are the codes for programing programable remote controls. The code sequence must include all of the information, including defining the code as RC5. For example: RC5 System 25 Code 13 = MUTE.

CODE	SSP-60 (SYS 25)
12	STANDBY
13	MUTE toggle
15	DIM
16	VOLUME /\ (UP)
17	VOLUME \/ (DOWN)
20	AUD1
21	AUD2
22	AUD3
3	AUD4
24	Ext7.1
26	TAPE toggle
32	MODE
33	MENU
34	ARROW UP
35	ARROW LEFT
36	ARROW RIGHT
37	ARROW DOWN
38	ENTER
39	EXIT (CANCEL)
48	AV1
49	AV2
50	AV3
51	AV4
52	AV5
53	AV6
54	TRIM /\ (UP)
55	ZONE
56	CAL
57	THX
60	TRIM
61	COMP (DYN) toggle
62	TRIM \/ (DOWN)
63	STATUS

APPENDIX B SSP-60 Mode Chart

Below are the available modes (subject to change) and the active speakers in each case. The subwoofer is not included in the table since it is active if selected in the speaker setup and if any of the active speakers are set as “small”.

MODE	Signal Type	Processing	Output from Speakers
Mono	Dolby Digital EX	Mono downmix	C
	Dolby Digital 5.1	Mono downmix	C
	Dolby Digital 2/0	Mono downmix	C
	DTS-ES Discrete	Mono downmix	C
	DTS-ES Matrix	Mono downmix	C
	DTS 3/2	Mono downmix	C
	PCM	Mono downmix	C
	Analog	Mono downmix	C
Stereo	Dolby Digital EX	Stereo downmix	L, R
	Dolby Digital 5.1	Stereo downmix	L, R
	Dolby Digital 2/0	Not applicable	Not applicable
	DTS-ES Discrete	Stereo downmix	L, R
	DTS-ES Matrix	Stereo downmix	L, R
	DTS 3/2	Stereo downmix	L, R
	PCM	No processing	L, R
	Analog	No processing	L, R
Stereo 96	Dolby Digital EX	Not applicable	Not applicable
	Dolby Digital 5.1	Not applicable	Not applicable
	Dolby Digital 2/0	Not applicable	Not applicable
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	Not applicable	Not applicable
	DTS 3/2	Not applicable	Not applicable
	PCM	Not applicable	Not applicable
	Analog	A/D 24/96	L, R
Direct	Dolby Digital EX	No processing	L, R, C, LS, RS
	Dolby Digital 5.1	No processing	L, R, C, LS, RS
	Dolby Digital 2/0	No processing	L, R
	DTS-ES Discrete	No processing	L, R, C, LS, RS, LB+RB
	DTS-ES Matrix	No processing	L, R, C, LS, RS
	DTS 3/2	No processing	L, R, C, LS, RS
	PCM	Not applicable	Not applicable
	Analog	Not applicable	Not applicable
Dolby Pro Logic / Pro Logic II Movie & Pro Logic II Music	Dolby Digital EX	Not applicable	Not applicable
	Dolby Digital 5.1	Not applicable	Not applicable
	Dolby Digital 2/0	Dolby PL / PLII	L, R, C, LS, RS
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	Not applicable	Not applicable
	DTS 3/2	Not applicable	Not applicable
	PCM	Dolby PL / PLII	L, R, C, LS, RS
	Analog	Dolby PL / PLII	L, R, C, LS, RS

Note: LB+RB indicates that a single rear (back) surround signal is played by both rear channels.

Continued on following page

Continued from previous page

MODE	Signal Type	Processing	Output from Speakers
Surround 6.1	Dolby Digital EX	Surround 6.1	L, R, C, LS, RS, LB+RB
	Dolby Digital 5.1	Surround 6.1	L, R, C, LS, RS, LB+RB
	Dolby Digital 2/0	Not applicable	Not applicable
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	Not applicable	Not applicable
	DTS 3/2	Surround 6.1	L, R, C, LS, RS, LB+RB
	PCM	Not applicable	Not applicable
	Analog	Not applicable	Not applicable
Dolby Digital EX	Dolby Digital EX	Dolby Digital EX	L, R, C, LS, RS, LB+RB
	Dolby Digital 5.1	Dolby Digital EX	L, R, C, LS, RS, LB+RB
	Dolby Digital 2/0	Not applicable	Not applicable
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	Not applicable	Not applicable
	DTS 3/2	Not applicable	Not applicable
	PCM	Not applicable	Not applicable
	Analog	Not applicable	Not applicable
DTS-ES Matrix	Dolby Digital EX	Not applicable	Not applicable
	Dolby Digital 5.1	Not applicable	Not applicable
	Dolby Digital 2/0	Not applicable	Not applicable
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	DTS-ES Matrix	L, R, C, LS, RS, LB+RB
	DTS 3/2	Not applicable	Not applicable
	PCM	Not applicable	Not applicable
	Analog	Not applicable	Not applicable
DTS Neo:6, Neo:6 Cinema & Neo :6 Music	Dolby Digital EX	Not applicable	Not applicable
	Dolby Digital 5.1	Not applicable	Not applicable
	Dolby Digital 2/0	DTS Neo:6 Cin/Mus	L, R, C, LS, RS, LB+RB
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	Not applicable	Not applicable
	DTS 3/2	DTS Neo:6	L, R, C, LS, RS, LB+RB
	PCM	DTS Neo:6 Cin/Mus	L, R, C, LS, RS, LB+RB
	Analog	DTS Neo:6 Cin/Mus	L, R, C, LS, RS, LB+RB
Music Modes: Natural & Party Subject to change	Dolby Digital EX	Not applicable	Not applicable
	Dolby Digital 5.1	Not applicable	Not applicable
	Dolby Digital 2/0	Natural / Party	L, R, C, LS, RS
	DTS-ES Discrete	Not applicable	Not applicable
	DTS-ES Matrix	Not applicable	Not applicable
	DTS 3/2	Not applicable	Not applicable
	PCM	Natural / Party	L, R, C, LS, RS
	Analog	Natural / Party	L, R, C, LS, RS

Note: LB+RB indicates that a single rear (back) surround signal is played by both rear channels

APPENDIX C SSP-60 MODE DESCRIPTIONS

Mono: This mode will down-mix all available channels to Mono and play the result through the center speaker.

Stereo: Normal stereo mode for left and right front channels. For multi-channel formats like Dolby Digital and DTS, this mode will down-mix all available channels to stereo and play the result through the front Left and Right speakers.

Stereo96: This mode will sample an analog stereo signal and convert it to 96kHz / 24 bit digital format for internal processing.

Direct: This mode will automatically sense the encoding of the program material and select the appropriate decoding. It is the natural choice for playback of 5.1 multi-channel formats like Dolby Digital 5.1 and DTS 3/2. Direct is also the default decoding mode for DTS-ES Discrete and Dolby Digital 2.0 signals.

Surround 6.1: This mode will use a standard 5.1 signal and create a mono rear (back) channel from the Left Surround and right Surround signals. This mode will work with Dolby Digital 5.1 and DTS 3/2 program material.

Dolby Pro Logic: This mode will take a two channel, Dolby Surround-encoded audio signal and decode it into left, center, right and surround channels (where the mono surround channel will play over both surround speakers).

Dolby Pro Logic II: This mode, like the original Pro Logic will take a two channel Dolby Surround-encoded signal and split it up into left, center, right and (mono) surround channels but with more clarity, separation and resolution compared to the original Dolby Pro Logic mode. Dolby Pro Logic II actually consists of two modes: **Pro Logic II Movie** and **Pro Logic II Music**.

Dolby Digital EX: This format is an enhancement to Dolby Digital 5.1 where a rear center channel has been added. This new rear or "back" channel is matrix-encoded into the left surround and right surround signal pair. In Dolby Digital EX mode this rear channel is decoded and sent to the rear (back) speaker(s).

DTS-ES Matrix: **ES** stands for "Extended Surround" and it means that the signal contains is a matrix-encoded rear (back) surround channel. The DTS-ES Matrix modes this mono rear surround channel from the Left Surround and Right Surround channel pair and routes it to the rear (back) speaker(s).

DTS-ES Discrete: The DTS-ES Discrete format is based on DTS-ES Matrix but it includes a discrete version of the mono rear surround signal in addition to the matrix-encoded version. The SSP-60 decodes this signal in Direct mode. It routes the discrete rear surround signal to the Rear speaker(s) and it subtracts this discrete rear signal out of the matrix-encoded left surround and right surround channels, restoring the Ls and Rs channels as independent.

Neo:6: This mode converts conventional or Dolby Surround-encoded stereo signals into multi-channel surround. The NEO:6 Music mode will do all this without altering the front Left and Right signal for best reproduction of music. NEO:6 mode will also work on a DTS 3/2 signal and create a mono rear (back) channel.

Natural, Party: These are two music modes available on the SSP-60. These music modes will take a normal stereo signal and convert it into left, center, right and surround channels to create a surround field. The two modes have different sonic personalities.

APPENDIX D SSP-60 THX Mode Chart

Speaker configuration >		***5.1***	***6.1***		***7.1***			
Signal type	**Processing Mode**	**THX Cinema**	**THX Cinema**	**THX EX**	**THX Cinema**	**THX Ultra2 Cinema**	**THX Music**	**THX EX**
All applicable	Mono	✓	✓	-	✓	-	-	-
All applicable	Stereo	✓	✓	-	✓	-	-	-
Stereo signal*	Dolby Pro Logic	✓	✓	-	✓	-	-	-
Stereo signal*	PL II Movie	✓	✓	-	✓	-	-	-
Stereo signal*	PL II Music	-	-	-	-	-	-	-
Stereo signal*	Neo:6 Cinema	✓	✓	-	✓	-	-	-
Stereo signal*	Neo:6 Music	-	-	-	-	-	-	-
Stereo signal*	Natural/Party	-	-	-	-	-	-	-
Dolby Digital	Direct	✓	✓	✓	-	✓	✓	✓
Dolby Digital	Dolby EX	-	-	-	-	-	-	-
DTS 3/2.1	Direct	✓	✓	-	-	✓	✓	-
DTS 3/2.1	Neo:6	-	✓	-	✓	-	-	-
DTS-ES Matrix	Direct	✓	✓	-	-	✓	✓	-
DTS-ES Matrix	DTS-ES Matrix	-	✓	-	✓	-	-	-
DTS-ES Discrete	Direct	✓	✓	-	✓	-	-	-

* = Any of the following formats: Analog, Digital PCM, Dolby Digital 2/0, DTS 2/0

SSP-60 SPECIFICATIONS

Video inputs and outputs

Composite video

Input impedance:	75 ohms
Output impedance:	75 ohms

S-Video

Input impedance:	75 ohms
Output impedance:	75 ohms

Component video

Input impedance:	75 ohms
Output impedance:	75 ohms

Analog audio outputs

7.1 channel analog output

Maximum output level:		8 Vrms
Output impedance:		56 ohms
Total harmonic distortion	Analog source:	0.002%
	Digital source:	0.002%
	7.1 channel input:	0.002%
Signal to noise ratio	Analog source:	96dB
	Digital source:	101dB
	7.1 channel input:	105dB
Frequency response	Analog source:	20Hz to 22KHz
	Digital source:	20Hz to 42KHz
	7.1 channel input:	20Hz to 20KHz

Record outputs

Output level:	2 Vrms
Output impedance:	470 ohms

Analog audio inputs

Stereo analog inputs

Maximum input level:	3.6 Vrms
Input impedance:	17 Kohm

7.1 channel analog input

Maximum input level	8 Vrms
Input impedance	17 Kohms

SSP-60 weight and dimensions

Net weight:	27.75 lbs 12.62 Kg
Gross weight (with box and packing):	42 lbs 19.09 Kg
Net dimensions:	16” D x 19” W x 6.15” H 40.6 x 48.2 x 5.7 cm
Gross dimensions (box):	25.5” D x 25.5” W x 13.5” H 60.8 x 60.8 x 34.3 cm

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